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QUESTIONS

**TO ASK
WHEN YOU
BUY OR SELL
SHELLED CORN
BY GRADE**

Farmers know they cannot get top prices for shelled corn that is wet, dirty, or damaged. On the market, corn is sold by grades No. 1, No. 2, No. 3, No. 4, No. 5, and by Sample grade. Dry, clean, heavy, sound corn grades high.

Answers to the seven important questions asked in this leaflet tell you how these good points about corn are measured.

UNITED STATES DEPARTMENT OF

AGRICULTURE

Extension Service

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GRADING A SAMPLE OF SHELL CORN

QUESTION 1. Do you have a fair and average sample of the corn? If not—

Use a trier or probe to draw the sample (fig. 1).



Figure 1.

QUESTION 2. Are there bugs in the sample?

Look the sample over carefully for weevils or other insects. If corn is infested with insects injurious to stored grain, the word "Weevily" is added to the grade designation (fig. 2).



Figure 2.

QUESTION 3. How about odors?

Smell the sample. Corn that smells musty or sour or has other objectionable odors is placed in Sample grade. Corn that is heating is also graded as Sample grade (fig. 3).



Figure 3.

GRADE REQUIREMENTS¹

Grade No.	Minimum test weight per bushel	Maximum limits of—			
		Moisture	Cracked corn and foreign material	Damaged kernels	
	Pounds	Percent	Percent	Total	Heat-damaged
1	54	14.0	2	3	0.1
2	53	15.5	3	5	.2
3	51	17.5	4	7	.5
4	48	20.0	5	10	1.0
5	44	23.0	7	15	3.0

SAMPLE GRADE Sample grade shall include corn of the class Yellow Corn, or White Corn, or Mixed Corn, which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive; or which contains stones or cinders or both; or which is musty, or sour, or heating, or hot; or which has any commercially objectionable foreign odor; or which is otherwise of distinctly low quality.

¹ For complete description of grades, see HANDBOOK OF OFFICIAL GRAIN STANDARDS OF THE UNITED STATES, U. S. Department of Agriculture, Rev. 102 pp., illus. 1950.

D C O R N

QUESTION 4. Is the corn dry? If not—

Run a moisture test on a portion of the sample (fig. 4). See table for moisture allowance in the grades.



Figure 4.

QUESTION 5. Is the corn plump and heavy? If not—

Make a weight-per-bushel test (fig. 5). See table for test-weight requirements.



Figure 5.

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QUESTION 6. *Is the corn clean? If not—*

Sieve the sample, which should contain about $1\frac{1}{8}$ quarts. Use a sieve with round holes, $12/64$ -inch in diameter, to remove cracked corn and foreign material. Pick off by hand any material other than corn that remains on top of the sieve and add it to the screenings (fig. 6). Weigh the material removed and figure the percentage by weight. See table for allowances under "Cracked corn and foreign material."



Figure 6.

QUESTION 7. *Is the corn sound and free of other colors? If not—*

Pick out the damaged kernels from a 250-gram portion of the cleaned corn (fig. 7), weigh, and figure the percentage. See table for the percentage of damaged kernels permitted in the grades. When heat-damaged kernels are present, weigh them separately and compute the percentage. Corn is divided into three classes: Yellow, White, and Mixed. Yellow Corn may contain not more than 5 percent of other colors, and White Corn not more than 2 percent of other colors. Mixed Corn is all corn that does not meet the color requirements for Yellow or White.

If the class is in question, pick the corn of other colors from a 250-gram portion, weigh, and figure the percentage. A mechanical mixer and divider used for taking out 250-gram portions of the sample is shown in the background in figure 7.



Figure 7.

Of the tests shown in this leaflet, only the one that fixes the lowest possible grade need be made. For example, the moisture test is the only one usually necessary for damp corn. For dry corn, another factor, such as damaged kernels, may fix the grade.

Your local grain dealer, who uses the Federal corn grades, can show you how these seven tests are made.

See your county agricultural agent, or write to your State agricultural college, for more information about corn.

Federal grain-inspection supervisors of the Production and Marketing Administration, U. S. Department of Agriculture, and licensed grain inspectors located in the larger markets, can give you further advice on grading corn.

